Notice of Allowability	Application No.	Applicant(s)
	10/644,209	FISHER ET AL.
	Examiner	Art Unit
	Dipakkumar Gandhi	2138

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed on 8/21/2006 and RCE filed on 09/28/2006*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20061220*.

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

GUY LAMARRE
PRIMARY EXAMINER

Allowable Subject Matter

1.   Claims 1-20 are allowed.

2.   Amendment filed on 8/21/2006 and RCE filed on 09/28/2006 have been entered.

EXAMINER'S AMENDMENT

3.   An examiner's amendment to the record appears below. Should the changes and/or additions be

unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure

consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone interview with applicant's

representative Charles Peterson on 12/21/2006.

        The application has been amended as follows:

- In claim 1, line 10, "storage array" is changed to –storage device--.

- In claim 14, the last line is modified to "test storage media, wherein said selected test

   storage media are tested without being inserted into said data library."

4.   The following is an examiner's statement of reasons for allowance:

The present invention is related to a mass storage device and more particularly to a mass storage device

with removable storage media and methods of testing the removable storage media.

The claimed invention in claim 1 recites features such as: "a method of testing a storage media in a

storage device, said method comprising the steps of: a) inserting a physical storage volume into an input

area in a storage device; b) scanning an input area on said physical storage volume; c) moving said

physical storage volume to a drive capable of testing storage media in said physical storage volume; d)

testing said storage media; and e) returning tested said physical storage volume to said input area,

wherein tested said storage media are tested without being inserted into a library database for said

storage device."

The prior art of record (Taki et al. US 6,088,182) teach that FIG. 7 generally illustrates the construction of

a tape library system 29. Tape cassettes (not shown) are placed, via a cassette supplying part 31

provided in the front panel 30a of the case 30, into a cassette storage rack 32, 32, . . . disposed along a

vertical direction from the middle part in the case 30 toward both the upper and bottom locations in the

case 30. There is an ejection part 33 at a location slightly lower than the tape cassette supplying part 31 so that a tape cassette can be taken outside via a proper chute. In drive cases 34, 34, . . . disposed below the cassette storage racks 32, 32, . . . , there are a plurality of tape drive units 35, 35, . . . , arranged side by side, corresponding to the recording/reproducing means 18, 18, . . . A transfer mechanism 36 is disposed at a location opposite to the cassette storage racks 32 and the drive cases 34 so that a desired tape cassette is taken from a particular cassette storage rack 32 and transferred to a desired tape drive unit 35 by the transfer mechanism 36. The transfer mechanism 36 is also used to return the tape cassette to the original location in the rack 32. The transfer mechanism 36 may be realized for example by a 3-dimensional orthogonal robot. The transfer mechanism 36 includes a hand block 37, and a moving mechanism for moving a cassette along a vertical shaft or a horizontal shaft (col. 9, line 66 to col. 10, line 21, Taki et al.).

Kanazawa (US 5,561,530) teaches a method of magnetic recording using a magnetic recording medium, such as a magnetic tape, including a step of testing characteristics of the magnetic medium by recording a test signal (col. 1, lines 6-9, Kanazawa).

Tadokoro et al. (US 6,539,459 B1) teach a library system or an auto-changer system (col. 1, lines 18-20, Tadokoro et al.). Tadokoro et al. also teach a method for setting an operating mode in a library device (col. 3, lines 1-2, Tadokoro et al.).

Wiley et al. (US 5,579,234) teach that a portable electronic unit, such as a defibrillator, includes an autotest system for automatically self-testing the various electrical components within the unit during quiescent periods (col. 2, lines 25-29, Wiley et al.). Wiley et al. also teach that indication means includes a printer circuit for printing a written report of the test result for the operator (col. 24, lines 22-24, Wiley et al.).

Yadav et al. (US 5,774,725) teach a computer usable medium having computer readable program code means embodied in said medium (col. 14, lines 55-56, Yadav et al.).

Fisher et al. (US 6,247,096 B1) teach a typical virtual media server tape library, such as the IBM 3494, contains 50,000 logical volumes. Management of a virtual media server database for tracking the logical and physical volume relationship is accomplished by the virtual media server. Each of the physical

volumes and its stacked logical volumes is stored in a library storage cell, which is accessed by an accessor robot and delivered to a data storage drive. Operation of the library accessor is controlled by a library manager. Management of a library manager database is accomplished by the library manager for tracking the physical volumes and the storage cells (col. 1, line 60 to col. 2, line 4, Fisher et al.). However the prior arts of record do not teach a method of testing a storage media in a storage device, said method comprising the steps of: a) inserting a physical storage volume into an input area in a storage device; b) scanning an input area on said physical storage volume; c) moving said physical storage volume to a drive capable of testing storage media in said physical storage volume; d) testing said storage media; and e) returning tested said physical storage volume to said input area, wherein tested said storage media are tested without being inserted into a library database for said storage device.

Hence, the prior arts of record do not anticipate nor render obvious the claimed inventions. Thus, claim 1 is allowable over the prior arts of record. Claims 2-10 are allowed because of the combination of additional limitations and the limitations listed above.

- The claimed invention in claim 11 recites features such as: "a computer program product for testing storage media independent of inclusion in a data library, said computer program product comprising a computer usable medium having computer readable program code thereon, said computer readable program code comprising: computer readable program code means for managing and administering data in a data library, data in said data library being stored on removable storage media; computer readable program code means for scanning an input area on test storage media and queuing corresponding test media commands for scanned said test storage media; computer readable program code means for selectively testing scanned said test storage media and indicating test results; and computer readable program code means for moving tested said scanned removable storage media to an input area, wherein said tested storage media are tested without being inserted into a library database for said data library."

The prior art of record (Taki et al. US 6,088,182) teach that FIG. 7 generally illustrates the construction of a tape library system 29. Tape cassettes (not shown) are placed, via a cassette supplying part 31

provided in the front panel 30a of the case 30, into a cassette storage rack 32, 32, . . . disposed along a

vertical direction from the middle part in the case 30 toward both the upper and bottom locations in the

case 30. There is an ejection part 33 at a location slightly lower than the tape cassette supplying part 31

so that a tape cassette can be taken outside via a proper chute. In drive cases 34, 34, . . . disposed

below the cassette storage racks 32, 32, . . ., there are a plurality of tape drive units 35, 35, . . .,

arranged side by side, corresponding to the recording/reproducing means 18, 18, . . . A transfer

mechanism 36 is disposed at a location opposite to the cassette storage racks 32 and the drive cases 34

so that a desired tape cassette is taken from a particular cassette storage rack 32 and transferred to a

desired tape drive unit 35 by the transfer mechanism 36. The transfer mechanism 36 is also used to

return the tape cassette to the original location in the rack 32. The transfer mechanism 36 may be

realized for example by a 3-dimensional orthogonal robot. The transfer mechanism 36 includes a hand

block 37, and a moving mechanism for moving a cassette along a vertical shaft or a horizontal shaft (col.

9, line 66 to col. 10, line 21, Taki et al.).

Kanazawa (US 5,561,530) teaches a method of magnetic recording using a magnetic recording medium,

such as a magnetic tape, including a step of testing characteristics of the magnetic medium by recording

a test signal (col. 1, lines 6-9, Kanazawa).

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Tadokoro et al.). Tadokoro et al. also teach a method for setting an operating mode in a library device

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Wiley et al. (US 5,579,234) teach that a portable electronic unit, such as a defibrillator, includes an

autotest system for automatically self-testing the various electrical components within the unit during

quiescent periods (col. 2, lines 25-29, Wiley et al.). Wiley et al. also teach that indication means includes

a printer circuit for printing a written report of the test result for the operator (col. 24, lines 22-24, Wiley et

al.).

Yadav et al. (US 5,774,725) teach a computer usable medium having computer readable program code

means embodied in said medium (col. 14, lines 55-56, Yadav et al.).

Fisher et al. (US 6,247,096 B1) teach a typical virtual media server tape library, such as the IBM 3494, contains 50,000 logical volumes. Management of a virtual media server database for tracking the logical and physical volume relationship is accomplished by the virtual media server. Each of the physical volumes and its stacked logical volumes is stored in a library storage cell, which is accessed by an accessor robot and delivered to a data storage drive. Operation of the library accessor is controlled by a library manager. Management of a library manager database is accomplished by the library manager for tracking the physical volumes and the storage cells (col. 1, line 60 to col. 2, line 4, Fisher et al.). However the prior arts of record do not teach a computer program product for testing storage media independent of inclusion in a data library, said computer program product comprising a computer usable medium having computer readable program code thereon, said computer readable program code comprising: computer readable program code means for managing and administering data in a data library, data in said data library being stored on removable storage media; computer readable program code means for scanning an input area on test storage media and queuing corresponding test media commands for scanned said test storage media; computer readable program code means for selectively testing scanned said test storage media and indicating test results; and computer readable program code means for moving tested said scanned removable storage media to an input area, wherein said tested storage media are tested without being inserted into a library database for said data library.

Hence, the prior arts of record do not anticipate nor render obvious the claimed inventions. Thus, claim 11 is allowable over the prior arts of record. Claims 12-13 are allowed because of the combination of additional limitations and the limitations listed above.

- The claimed invention in claim 14 recites features such as: "a storage subsystem for storing and administering data in a data library, said storage subsystem capable of testing removable storage media comprising: a bulk input rack storing removable storage media inserted in a data library and test storage media; a plurality of storage media drive units accessing data in a data library stored on said removable storage media; an accessor selectively moving ones of said removable storage media and said test storage media to a selected one of said one or more drive units; a visual input unit reading media identification information on selected said removable storage

media and said test storage media; and at least one of said plurality of storage media drive units

testing a selected said test storage media, wherein said selected test storage media are tested

without being inserted into said data library."

The prior art of record (Taki et al. US 6,088,182) teach that FIG. 7 generally illustrates the construction of

a tape library system 29. Tape cassettes (not shown) are placed, via a cassette supplying part 31

provided in the front panel 30a of the case 30, into a cassette storage rack 32, 32, . . . disposed along a

vertical direction from the middle part in the case 30 toward both the upper and bottom locations in the

case 30. There is an ejection part 33 at a location slightly lower than the tape cassette supplying part 31

so that a tape cassette can be taken outside via a proper chute. In drive cases 34, 34, . . . disposed

below the cassette storage racks 32, 32, . . . , there are a plurality of tape drive units 35, 35, . . . ,

arranged side by side, corresponding to the recording/reproducing means 18, 18, . . . A transfer

mechanism 36 is disposed at a location opposite to the cassette storage racks 32 and the drive cases 34

so that a desired tape cassette is taken from a particular cassette storage rack 32 and transferred to a

desired tape drive unit 35 by the transfer mechanism 36. The transfer mechanism 36 is also used to

return the tape cassette to the original location in the rack 32. The transfer mechanism 36 may be

realized for example by a 3-dimensional orthogonal robot. The transfer mechanism 36 includes a hand

block 37, and a moving mechanism for moving a cassette along a vertical shaft or a horizontal shaft (col.

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Fisher et al. (US 6,247,096 B1) teach a typical virtual media server tape library, such as the IBM 3494, contains 50,000 logical volumes. Management of a virtual media server database for tracking the logical and physical volume relationship is accomplished by the virtual media server. Each of the physical volumes and its stacked logical volumes is stored in a library storage cell, which is accessed by an accessor robot and delivered to a data storage drive. Operation of the library accessor is controlled by a library manager. Management of a library manager database is accomplished by the library manager for tracking the physical volumes and the storage cells (col. 1, line 60 to col. 2, line 4, Fisher et al.).

However the prior arts of record do not teach a storage subsystem for storing and administering data in a data library, said storage subsystem capable of testing removable storage media comprising: a bulk input rack storing removable storage media inserted in a data library and test storage media; a plurality of storage media drive units accessing data in a data library stored on said removable storage media; an accessor selectively moving ones of said removable storage media and said test storage media to a selected one of said one or more drive units; a visual input unit reading media identification information on selected said removable storage media and said test storage media; and at least one of said plurality of storage media drive units testing a selected said test storage media, wherein said selected test storage media are tested without being inserted into said data library.

Hence, the prior arts of record do not anticipate nor render obvious the claimed inventions. Thus, claim 14 is allowable over the prior arts of record. Claims 15-20 are allowed because of the combination of additional limitations and the limitations listed above.

- Thus, claims 1-20 are allowable over the prior arts of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dipakkumar Gandhi whose telephone number is 571-272-3822. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dipakkumar Gandhi
Patent Examiner